09/203500
Art A26

WEST Search History

DATE: Wednesday, April 10, 2002

Set Name side by side	Query	Hit Count	Set Name result set
DB=USPT,PGPB,JPAB,EPAB,DWPI; PLUR=YES; OP=ADJ			
L10	l2 with l3 with l4	22	L10
L9	l3 with l4	494	L9
L8	l1 same l3 same L4	0	L8
L7	l1 samel3 same L4	0	L7
L6	l1 with l3 with L4	0	L6
L5	l1 with l2 with l3 with L4	0	L5
L4	homologous	32345	L4
L3	recombinas$ or transpos$ or retrotranspos$	23174	L3
L2	marker	112329	L2
L1	dhfr	4500	L1

END OF SEARCH HISTORY

1. Document ID: US 20010032341 A1

L10: Entry 1 of 22

File: PGPB

Oct 18, 2001

PGPUB-DOCUMENT-NUMBER: 20010032341
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20010032341 A1

TITLE: Method for marker-free repetitive DNA expression cassette exchange in the genome of cells or parts of cells

PUBLICATION-DATE: October 18, 2001

US-CL-CURRENT: 800/21; 435/354

APPL-NO: 09/ 841843
DATE FILED: April 25, 2001

RELATED-US-APPL-DATA:
RLAN
RLFD
RLPC
RLKC

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09841843
Apr 25, 2001
ABANDONED
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09257561
Feb 25, 1999

FOREIGN-APPL-PRIORITY-DATA:
COUNTRY
APPL-NO
DOC-ID
APPL-DATE
EP
98 103 490.3
1998EP-98 103 490.3
February 27, 1998

IN: Bode, Jurgen, Seibler, Jost, Schubeler, Dirk

AB: The invention relates to a method for marker-free repetitive DNA expression cassette exchange in the genome of cells or parts of cells by using the FLP recombinase mediated cassette exchange. In a first step a first DNA expression cassette carrying a positive-negative selection marker flanked by a wild type FLP recombinase recognition target (FRT) site on one end and a modified heterospecific FRT on the other end is integrated into a chromosomal locus of the genome for tagging. Following selection of cell clones surviving the conditions for positive selection said first DNA cassette as a second step is exchanged by an incoming second DNA expression cassette located on a circular vector and carrying a homologous or heterologous gene (transgene) of any coding sequence flanked by the same FRT sites as the first DNA cassette by using FLP-recombinase. The cell clones surviving the conditions for negative selection contain specifically inserted the gene of the incoming DNA cassette without inserted unwanted vector sequences or positive selectable markers.

L10: Entry 1 of 22

File: PGPB

Oct 18, 2001

DOCUMENT-IDENTIFIER: US 20010032341 A1
TITLE: Method for marker-free repetitive DNA expression cassette exchange in the genome of cells or parts of cells

CLAIMS:

1. A method for repetitive DNA expression cassette exchange in the genome of cells or parts of cells comprising the steps of a) integrating into a chromosomal locus of the genome of said cells a first DNA expression cassette carrying a positive-negative selection marker flanked by a wild type FLP-recombinase recognition target (FRT) site on one end and a modified heterospecific FRT site on the other end for tagging, b) selecting cell clones surviving the conditions for positive selection, c) exchanging said first DNA expression cassette against an incoming second DNA expression cassette located on a circular vector and carrying a homologous or heterologous gene (transgene) of any coding sequence flanked by the same FRT sites as said first DNA expression cassette mediated by the action of FLP-recombinase, characterized in that said cells are vertebrate cells which can regenerate to complete organisms, and said parts of cells are nuclei of vertebrate cells, which can be inserted into regenerative cells, and further characterized by d) maintaining the conditions for positive selection during cultivation of said cells obtained in step b) while exchanging said first DNA expression cassette against said incoming second DNA expression cassette, e) using in step c) an incoming second DNA expression cassette which is marker-free, and f) selecting cell clones obtained after step c) surviving the conditions for negative selection.

2. Document ID: US 6359193 B1

L10: Entry 2 of 22

File: USPT

Mar 19, 2002

US-PAT-NO: 6359193
DOCUMENT-IDENTIFIER: US 6359193 B1

TITLE: Nucleotide sequences of lats genes

DATE-ISSUED: March 19, 2002

US-CL-CURRENT: 800/13; 435/320.1, 435/325, 435/455, 536/23.1, 536/23.5

APPL-NO: 9/ 442100
DATE FILED: November 17, 1999

PARENT-CASE:

The present application is a divisional application of application Ser. No. 08/411,111 now U.S. Pat. 5,994,503, filed Mar. 27, 1995, which is incorporated by reference herein its entirety.

IN: Xu; Tian, Tao; Wufan, Wang; Weiyi, Zhang; Sheng, Yu; Wan

AB: The present invention relates to a tumor suppressor gene, termed large tumor suppressor (lats), and methods for identifying tumor suppressor genes. The method provides nucleotide sequences of lats genes, and amino acid sequences of their encoded proteins, as well as derivatives (e.g., fragments) and analogs thereof. In a specific embodiment, the lats protein is a human protein. The invention further relates to fragments (and derivatives and analogs thereof) of lats which comprise one or more

domains of a lats protein. Antibodies to lats,
its derivatives and analogs, are additionally provided. Methods of production of the lats proteins, derivatives and
analogs, e.g., by recombinant means, are also provided. Therapeutic and diagnostic methods and pharmaceutical
compositions are provided. The invention also relates to recombinant plants and animals and methods of increasing
the growth of edible plants and animals. In specific examples, isolated lats genes, from Drosophila, mouse, and
human, and the sequences thereof, are provided.

L10: Entry 2 of 22

File: USPT

Mar 19, 2002

DOCUMENT-IDENTIFIER: US 6359193 B1
TITLE: Nucleotide sequences of lats genes

Detailed Description Paragraph Right (219):
In another embodiment, the invention provides a method of identifying genes with an observable mutant phenotype by use of human (or other animal) tissue culture cells that have incorporated a site-specific recombination system such as described above. The site-specific recombination system can be introduced by methods such as described above, so as to introduce a recombinant source of recombinase and effect intrachromosomal insertions of the recombinase target sites on the homologous arms of both of a set of parental chromosomes, for one or more chromosomes. In a preferred aspect relating to this use of culture cells, the recombinase target sites are ligated to a selectable marker (e.g., an antibiotic resistance gene), and cells are obtained that have the target sites on each of the homologous chromosome arms, by selecting under selection conditions of relatively high stringency (e.g., by increasing the antibiotic concentration in the cell medium), As with the use of genetic mosaics as described above, once mitotic recombination is induced between the target sites on the homologous chromosome arms, one then identifies-cells displaying a mutant phenotype, and recovers a gene mutated in cells exhibiting the mutant phenotype. For example, a potential tumor suppressor gene can be identified by isolating a gene that is mutated in cultured cells exhibiting a transformed phenotype.

3. Document ID: US 6355412 B1

L10: Entry 3 of 22

File: USPT

Mar 12, 2002

US-PAT-NO: 6355412
DOCUMENT-IDENTIFIER: US 6355412 B1

TITLE: Methods and compositions for directed cloning and subcloning using homologous recombination

DATE-ISSUED: March 12, 2002

US-CL-CURRENT: 435/4; 435/252.1, 435/252.8, 435/320.1, 435/325, 435/6, 435/91.4, 536/23.1

APPL-NO: 9/350830
DATE FILED: July 9, 1999
IN: Stewart; A. Francis, Zhang; Youming, Muyrers; Joep Pieter Paul

AB: The present invention is directed to methods and compositions for DNA subcloning using bacterial
recombinase-mediated homologous recombination. The invention relates to methods for cloning, compositions comprising
polynucleotides usefall as cloning vectors, cells comprising such polynucleotide compositions, and kits useful for
cloning mediated by bacterial recombinases, such as RecE/T and Red.alpha./.beta..

L10: Entry 3 of 22

File: USPT

Mar 12, 2002

DOCUMENT-IDENTIFIER: US 6355412 B1
TITLE: Methods and compositions for directed cloning and subcloning using homologous recombination

Drawing Description Paragraph Right (4):
FIG. 4. Diagrammatic representation of an example of Approach 3. The cloning or subcloning vector includes an E. coli origin of replication and a selectable marker gene (Sm) flanked by two short homology arms, shown as thick grey blocks. Additionally, the vector includes two recombination target sites (SSRTs) one of which is between the origin and the selectable marker gene. Most simply, the vector is constructed first as a linear DNA fragment as shown in the figure. Upon circularization, the second SSRT is located between the homology arms oriented as a direct repeat with respect to the first SSRT, so that site-specific recombination between the two SSRTs results in the production of two different circular molecules, thereby separating the origin and the selectable marker gene. The circularized vector is transformed into an E. coli strain within which RecE/T or Red.alpha./.beta. proteins is expressed, or can be expressed. The E. coli strain also carries an inducible site-specific recombinase (SSR) gene, the product of which recognizes the SSRTs in the vector so that site-specific recombination between the SSRTs does not occur until the site-specific recombinase gene is induced for expression. The E. coli cells carrying the vector and the regulated site-specific recombinase gene are prepared so that they contain RecE/T or Red.alpha./.beta. proteins and are competent for transformation. DNA molecules containing the region to be cloned is then introduced into a host cell. After homologous recombination between the homology arms, expression of the site-specific recombinase protein is induced and selection for expression of the selectable marker gene is imposed. Before site-specific recombination, cells will contain either unrecombined vector carrying two SSRTs or the intended homologous recombination product which carries only one SSRT, since homologous recombination results in deletion of the SSRT located between the homology arms. After expression of the site-specific recombinase is induced, and selection for expression of the selectable marker is imposed, cells containing the product of homologous recombination will survive, since this product is no longer a substrate for site-specific recombination.

4. Document ID: US 6335164 B1

L10: Entry 4 of 22

File: USPT

Jan 1, 2002

US-PAT-NO: 6335164
DOCUMENT-IDENTIFIER: US 6335164 B1

TITLE: Methods for targeting, enriching, detecting and/or isolating target

nucleic acid sequence using RecA-like recombinase

DATE-ISSUED: January 1, 2002

US-CL-CURRENT: 435/6; 435/320.1, 435/4, 435/488, 435/69.1, 514/44, 530/350

APPL-NO: 9/ 147751
DATE FILED: May 18, 1999

FOREIGN-APPL-PRIORITY-DATA:
COUNTRY
APPL-NO
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JP
8-229061
August 29, 1996
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December 26, 1996

PCT-DATA:
APPL-NO
DATE-FILED
PUB-NO
PUB-DATE
371-DATE
102(E)-DATE
PCT/JP97/03019
August 29, 1997
WO98/08975
Mar 5, 1998
May 18, 1999
May 18, 1999

IN: Kigawa; Koji, Yamanaka; Mikayo, Kusumi; Kayo, Mukai; Eli, Obata; Kazuaki

AB: A method for targeting, enriching, detecting and isolating a double-stranded nucleic acid target sequence by adding heterologous probes to the reaction system along with the reduced amount of homologous probes in the process of homologous pairing and/or strand exchange between the homologous probe and the target sequence in the presence of a RecA-like recombinase.

L10: Entry 4 of 22
File: USPT

Jan 1, 2002

DOCUMENT-IDENTIFIER: US 6335164 B1
TITLE: Methods for targeting, enriching, detecting and/or isolating target nucleic acid sequence using RecA-like recombinase

Brief Summary Paragraph Right (60):
In an embodiment of the present invention, a kit in accordance with the present invention may comprise the following elements in separate compartments respectively: RecA-like recombinase, appropriate co-factors, a heterologous probe, a solid phase designed to capture the complex of double-stranded target DNA and homologous probe labeled with marker or ligand, and washing solution.

5. Document ID: US 6277608 B1

L10: Entry 5 of 22
File: USPT

Aug 21, 2001

US-PAT-NO: 6277608
DOCUMENT-IDENTIFIER: US 6277608 B1

TITLE: Recombinational cloning using nucleic acids having recombination sites

DATE-ISSUED: August 21, 2001

US-CL-CURRENT: 435/91.4; 435/320.1, 435/6, 435/69.1, 435/91.1, 435/91.42, 536/23.1, 536/24.2

APPL-NO: 9/ 296280
DATE FILED: April 22, 1999

PARENT-CASE:

CROSS-REFERENCE TO RELATED APPLICATIONS
The present application is a divisional of U.S. application Ser. No. 09/177,387, filed Oct. 23, 1998, which claims the benefit of the filing date of U.S. Provisional Application No. 60/065,930, filed Oct. 24, 1997, the disclosure of which is incorporated by reference herein in its entirety. The present application claims priority to U.S. application Ser. No. 08/663,002, filed Jun. 7, 1996, (now U.S. Pat. No. 5,888,732) and is related to U.S. application Ser. No. 08/486,139, filed Jun. 7, 1995 now abandoned, the disclosures of which applications are incorporated by reference herein in their entireties.

IN: Hartley; James L., Brasch; Michael A., Temple; Gary F., Fox; Donna K.

AB: Recombinational cloning is provided by the use of nucleic acids, vectors and methods, in vitro and in vivo, for moving or exchanging segments of DNA molecules using engineered recombination sites and recombination proteins to provide chimeric DNA molecules that have the desired characteristic(s) and/or DNA segment(s).

L10: Entry 5 of 22
File: USPT

Aug 21, 2001

DOCUMENT-IDENTIFIER: US 6277608 B1
TITLE: Recombinational cloning using nucleic acids having recombination sites

Detailed Description Paragraph Right (26):
Vector: is a nucleic acid molecule (preferably DNA) that provides a useful biological or biochemical property to an Insert. Examples include plasmids, phages, autonomously replicating sequences (ARS), centromeres, and other sequences which are able to replicate or be replicated in vitro or in a host cell, or to convey a desired nucleic acid segment to a desired location within a host cell. A Vector can have one or more restriction endonuclease recognition sites at which the sequences can be cut in a determinable fashion without loss of an essential biological function of the vector, and into which a nucleic acid fragment can be spliced in order to bring about its replication and cloning. Vectors can further provide primer sites, e.g., for PCR, transcriptional and/or translational initiation and/or regulation sites, recombinational signals, replicons, Selectable markers, etc. Clearly, methods of inserting a desired nucleic acid fragment which do not require the use of homologous recombination, transpositions or restriction enzymes (such as, but not limited to, UDG cloning of PCR fragments (U.S. Pat. No. 5,334,575,

entirely incorporated herein by reference), TA Cloning.RTM. brand PCR cloning (Invitrogen Corp., Carlsbad, Calif.), and the like) can also be applied to clone a fragment into a cloning vector to be used according to the present invention. The cloning vector can further contain one or more selectable markers suitable for use in the identification of cells transformed with the cloning vector.

6. Document ID: US 6051383 A

L10: Entry 6 of 22

File: USPT

Apr 18, 2000

US-PAT-NO: 6051383
DOCUMENT-IDENTIFIER: US 6051383 A

TITLE: Sequences for production of 2,4-diacetylphloroglucinol and methods

DATE-ISSUED: April 18, 2000

US-CL-CURRENT: 435/6; 530/350

APPL-NO: 9/ 251725
DATE FILED: February 17, 1999

PARENT-CASE:

This application is a division of application Ser. No. 08/494,907, U.S. Pat. No. 5,955,298, filed Jun. 26, 1995.

IN: Thomashow; Linda S., Bangera; Mahalaxmi, Weller; David M., Cook; R. James

AB: DNA sequences which function specifically in the synthesis of 2,4-diacetylphloroglucinol (Phl) are described. The sequences include phl genes which encode phl gene proteins and coding and regulatory sequences for production of Phl as well as sequences containing phl genes, which sequences have the capability of conferring or enhancing Phl biosynthetic capability in bacterial strains. The transformed strains are useful as biocontrol agents against fungal pathogens.

L10: Entry 6 of 22

File: USPT

Apr 18, 2000

DOCUMENT-IDENTIFIER: US 6051383 A
TITLE: Sequences for production of 2,4-diacetylphloroglucinol and methods

Detailed Description Paragraph Right (107):
Subcloning experiments are performed with the objective of determining whether the intact phlF gene is sufficient to repress expression of phl biosynthetic genes. The phlF gene is cloned in its entirety from pMON5120 on an EcoRV fragment, BamHI adapters are ligated to the ends, and the fragment is cloned into the BamHI site in pRK415, a broad host-range vector that can be maintained in Pseudomonas strains. This construction is introduced into Q2-87::Tn3HoHo1-15 and Q2-87::Tn3HoHo1-40, reporter strains in which Tn3HoHo1 transposon insertions 15 (in phlD) 40 (in phlA) have been introduced into the chromosome of Q2-87 by marker exchange (homologous recombination). The BamHI fragment is sufficient to repress expression of phlA and phlD, as indicated by loss of blue colony color on media containing the chromogenic substrate X-gal, or by failure to detect .beta.-galactosidase activity in a standard enzyme assay known to those skilled in the art. In contrast, introduction of pRK415 alone causes no change in colony color.

7. Document ID: US 5994503 A

L10: Entry 7 of 22

File: USPT

Nov 30, 1999

US-PAT-NO: 5994503
DOCUMENT-IDENTIFIER: US 5994503 A

TITLE: Nucleotide and protein sequences of lats genes and methods based thereon

DATE-ISSUED: November 30, 1999

US-CL-CURRENT: 530/350; 424/185.1, 435/194, 435/69.1, 435/7.1, 435/925, 530/300, 530/324, 530/325, 530/326

APPL-NO: 8/ 411111
DATE FILED: March 27, 1995

IN: Xu; Tian, Tao; Wufan, Wang; Weiyi, Zhang; Sheng, Yu; Wan

AB: The present invention relates to a tumor suppressor gene, termed large tumor suppressor (lats), and methods for identifying tumor suppressor genes. The method provides nucleotide sequences of lats genes, and amino acid sequences of their encoded proteins, as well as derivatives (e.g., fragments) and analogs thereof. In a specific embodiment, the lats protein is a human protein. The invention further relates to fragments (and derivatives and analogs thereof) of lats which comprise one or more domains of a lats protein. Antibodies to lats, its derivatives and analogs, are additionally provided. Methods of production of the lats proteins, derivatives and analogs, e.g., by recombinant means, are also provided. Therapeutic and diagnostic methods and pharmaceutical compositions are provided. The invention also relates to recombinant plants and animals and methods of increasing the growth of edible plants and animals. In specific examples, isolated lats genes, from Drosophila, mouse, and human, and the sequences thereof, are provided.

L10: Entry 7 of 22

File: USPT

Nov 30, 1999

DOCUMENT-IDENTIFIER: US 5994503 A
TITLE: Nucleotide and protein sequences of lats genes and methods based thereon

Detailed Description Paragraph Right (228):
In another embodiment, the invention provides a method of identifying genes with an observable mutant phenotype by use of human (or other animal) tissue culture cells that have incorporated a site-specific recombination system such as described above. The site-specific recombination system can be introduced by methods such as described above, so as to introduce a recombinant source of recombinase and effect intrachromosomal insertions of the recombinase

target sites on the homologous arms of both of a set of parental chromosomes, for one or more chromosomes. In a preferred aspect relating to this use of culture cells, the recombinase target sites are ligated to a selectable marker (e.g., an antibiotic resistance gene), and cells are obtained that have the target sites on each of the homologous chromosome arms, by selecting under selection conditions of relatively high stringency (e.g., by increasing the antibiotic concentration in the cell medium), As with the use of genetic mosaics as described above, once mitotic recombination is induced between the target sites on the homologous chromosome arms, one then identifies cells displaying a mutant phenotype, and recovers a gene mutated in cells exhibiting the mutant phenotype. For example, a potential tumor suppressor gene can be identified by isolating a gene that is mutated in cultured cells exhibiting a transformed phenotype.

8. Document ID: US 5955298 A

L10: Entry 8 of 22 File: USPT

Sep 21, 1999

US-PAT-NO: 5955298
DOCUMENT-IDENTIFIER: US 5955298 A

TITLE: Sequences for production of 2,4-Diacetylphloroglucinol and methods

DATE-ISSUED: September 21, 1999

US-CL-CURRENT: 435/69.1; 435/183, 435/195, 435/252.3, 435/320.1, 530/350, 536/23.2, 536/23.7, 536/24.32

APPL-NO: 8/ 494907
DATE FILED: June 26, 1995
IN: Thomashow; Linda S., Bangera; Mahalaxmi, Weller; David M., Cook; R. James

AB: DNA sequences which function specifically in the synthesis of 2,4-diacetylphloroglucinol (Phl) are described. The sequences include phl genes which encode phl gene proteins and coding and regulatory sequences for production of Phl as well as sequences containing phl genes, which sequences have the capability of conferring or enhancing Phl biosynthetic capability in bacterial strains. The transformed strains are useful as biocontrol agents against fungal pathogens.

L10: Entry 8 of 22 File: USPT

Sep 21, 1999

DOCUMENT-IDENTIFIER: US 5955298 A
TITLE: Sequences for production of 2,4-Diacetylphloroglucinol and methods

Detailed Description Paragraph Right (103):
Subcloning experiments are performed with the objective of determining whether the intact phlF gene is sufficient to repress expression of phl biosynthetic genes. The phlF gene is cloned in its entirety from pMON5120 on an EcoRV fragment, BamHI adapters are ligated to the ends, and the fragment is cloned into the BamHI site in pRK415, a broad host-range vector that can be maintained in Pseudomonas strains. This construction is introduced into Q2-87::Tn3HoHo1-15 and Q2-87::Tn3HoHo1-40, reporter strains in which Tn3HoHo1 transposon insertions 15 (in phlD) 40 (in phlA) have been introduced into the chromosome of Q2-87 by marker exchange (homologous recombination). The BamHI fragment is sufficient to repress expression of phlA and phlD, as indicated by loss of blue colony color on media containing the chromogenic substrate X-gal, or by failure to detect 6-galactosidase activity in a standard enzyme assay known to those skilled in the art. In contrast, introduction of pRK415 alone causes no change in colony color.

9. Document ID: US 5882888 A

L10: Entry 9 of 22 File: USPT

Mar 16, 1999

US-PAT-NO: 5882888
DOCUMENT-IDENTIFIER: US 5882888 A

TITLE: DNA integration by transposition

DATE-ISSUED: March 16, 1999

US-CL-CURRENT: 435/69.1; 435/243, 435/252.31, 435/320.1, 435/473, 435/477, 435/478, 435/489, 435/91.4, 536/23.1, 536/24.2

APPL-NO: 8/ 875154
DATE FILED: July 17, 1997

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	APPL-DATE
DK	0083/95	January 23, 1995
DK	0799/95	July 6, 1995

PCT-DATA:

APPL-NO	DATE-FILED	PUB-NO	PUB-DATE	371-DATE	102(E)-DATE
PCT/DK96/00038	January 23, 1996	WO96/23073	Aug 1, 1996	Jul 17, 1997	Jul 17, 1997

IN: J.o slashed.rgensen; Steen Troels

AB: Multicopy strains of gram-positive bacteria carrying multiple copies of a DNA sequence of interest may be constructed by use of a method involving introduction of a DNA construct comprising the DNA sequence of interest into the genome of the recipient cell by transposition and subsequent deletion of a marker gene used for selection of the cells having received the DNA construct by a resolution system. The multicopy strains are preferably free from a gene encoding an undesirable marker such as an antibiotic

resistance marker.

L10: Entry 9 of 22 File: USPT

Mar 16, 1999

DOCUMENT-IDENTIFIER: US 5882888 A
TITLE: DNA integration by transposition

Brief Summary Paragraph Right (38):
An alternative approach to using the above described recombinase system for deleting a marker gene used in the construction of modified cells by transposition is to effect the deletion of the marker gene by homologous recombination. Accordingly, in a second aspect of the present invention relates to a DNA construct is provided which comprises the structure IR(1)-P-R'-M2-R"-IR(2) or IR(1)-R'-M2-R"-P-IR(2), wherein

Brief Summary Paragraph Type 1 (37):
d) allowing homologous recombination between the DNA sequences R' and R" to take place so as to excise the selectable marker gene M2 and the transposase gene T, whereby cells are obtained having integrated the structure IR(1)-R'/R"-P-IR(2) or IR(1)-P-R'/R"-IR(2) (wherein R'/R" denotes the common recombination sequence), and optionally

CLAIMS:

4. A method for constructing a bacterial cell, wherein the cell has integrated more than two copies of a DNA sequence of interest in the genomic DNA of the cell, and wherein the cell is free from a DNA sequence encoding an undesired selectable marker, which method comprises

a) introducing into a host cell a first vector comprising a DNA construct comprising the structure IR(1)-R'-M2-T-R"-P-IR(2), IR(1)-P-R'-M2-T-R"-IR(2), IR(1)-R'-T-M2-R"-P-IR(2) or IR(1)-P-R'-T-M2-R"-IR(2), wherein

IR(1) and IR(2) denote transposase target sequences,

P is a DNA sequence of interest,

R' and R" are parallel repeat sequences,

M2 is a selectable marker gene, and

T a transposase gene T, optionally in association with a selectable marker gene M1 into the host cell,

b) selecting for a M1.sup.-, M2.sup.+ cell, said cell containing the structure identified in a),

c) selecting for a cell having an increased number of copies of the selectable marker gene M2,

d) allowing homologous recombination between the DNA sequences R' and R" to take place so as to excise the selectable marker gene M2 and the transposase gene T, whereby cells are obtained having integrated the structure IR(1)-R'/R"-P-IR(2) or IR(1)-P-R'/R"-IR(2), wherein R'/R" denotes the common recombination sequence, and

e) repeating steps a-d one or more times to produce bacterial cells comprising one or more additional copies of the DNA structure IR(1)-R'/R"-P-IR(2) or IR(1)-P-R'/R"-IR(2).

10. Document ID: US 5830690 A

L10: Entry 10 of 22 File: USPT

Nov 3, 1998

US-PAT-NO: 5830690
DOCUMENT-IDENTIFIER: US 5830690 A

TITLE: Process for producing polypeptides

DATE-ISSUED: November 3, 1998

US-CL-CURRENT: 435/69.1; 435/252.3, 435/252.33, 435/320.1, 435/472, 435/477, 435/488, 435/91.1, 536/24.1

APPL-NO: 8/ 578158
DATE FILED: December 29, 1995
IN: Gowrishankar; Jayaraman, Bhandari; Poonam, Rajkumari; Kaveti

AB: The invention relates to the construction and use of novel expression systems that make use of DNA sequences encoding a promoter or promoters along with cis-regulatory elements, such as those for proU, that permit osmotically inducible initiation of transcription in bacteria; the expression systems of the present invention can be used to efficiently hyperexpress heterologous gene products including proteins or polypeptides; methods for construction of vectors and strains enabling NaCl-induced hyperexpression of heterologous gene products in several organisms such as Escherichia coli, and methods for NaCl-induced hyperexpression of heterologous gene products, including proteins or polypeptides, using the said novel combinations in a variety of organisms such as Escherichia coli, and further purification of the gene product of interest in either laboratory or industrial scale production systems.

L10: Entry 10 of 22 File: USPT

Nov 3, 1998

DOCUMENT-IDENTIFIER: US 5830690 A
TITLE: Process for producing polypeptides

Detailed Description Paragraph Right (10):
In the second step of this method (see FIG. 5--containing the schematic depiction of steps in construction of strains GJ1150 by chromosomal integration of proUp-T7 RNAP fusion from plasmid pHYD507; most symbols are explained in the legend to FIG. 3; the numerals 1 and 2 on the plasmid and chromosome identify homologous pairs of sites that serve as substrates for the postulated double cross-over reciprocal recombination event between the two replicons), the proUp-T7 RNAP fusion from the plasmid pHYD507 was transferred by homologous recombination into the malTPQ locus of the strain pop2249 (which strain also carries a malQ-lacZ gene fusion such that a hybrid protein with a- galactosidase activity is expressed following transcription from the promoter upstream of malp gene). For this purpose, the strain pop2249 was transformed with pHYD507, and Ampr transformants were selected on LBON-Amp plates. The transformants were then screened for Tet and Lac phenotype on LBON-based media. A majority of transformants were Lac+and Tets under these conditions, but approximately 1-2%, in which presumably a reciprocal homologous recombination event had switched the proUp-T7 RNAP fusion from the plasmid into the chromosome and the malp promoter from the chromosome into the plasmid, had become Tetr and Lac-. The latter colonies (which were white and Tetr on

the LBON medium supplemented with X-gal and tetracycline) were then subcultured twice on plates free of both the antibiotics, ampicillin and tetracycline, in order to obtain spontaneous plasmid-free segregants. The latter were identified on subsequent testing as Amps and Tets colonies. One representative strain was subsequently confirmed to carry the proUp-T7 RNAP fusion, as it was shown to be capable of overexpressing SSB protein upon osmotic induction of derivatives carrying the plasmid pGK2 (in which ssb gene is cloned downstream of the phage T7m10 promoter; see example 4). This strain was designated as GJ1150. Optionally, by methods (of transposon marker-tagging, gene transfer from GJ1150 and homologous recombination) already known in the art, ma1PQ-integrant derivatives of other strains such as BL21 or B834 can be constructed which carry the same proUp-T7 RNAP fusion that is present in the ma1PQ locus of GJ1150.

11. Document ID: US 5447836 A

L10: Entry 11 of 22 File: USPT

Sep 5, 1995

US-PAT-NO: 5447836
DOCUMENT-IDENTIFIER: US 5447836 A

TITLE: Bacterial detection by phage transduction of ice nucleation and other phenotypes

DATE-ISSUED: September 5, 1995

US-CL-CURRENT: 435/4; 435/170, 435/252.33, 435/31, 435/39, 435/6, 435/69.1

APPL-NO: 7/ 474282
DATE FILED: February 5, 1990

PARENT-CASE:

This application is a continuation-in-part of application Ser. No. 07/253,160, filed on Oct. 4, 1988, now abandoned the disclosure of which is incorporated herein by reference.

IN: Wolber; Paul K., Green; Robert L.

AB: Viable bacteria may be detected in biological samples by exposing bacterial cultures obtained from the samples to transducing particles having a known host range. Such transducing particles carry a heterologous gene capable of altering the phenotype of the bacteria in a readily detectable manner. For example, the transducing particles may carry an ice nucleation gene and the alteration of phenotype may be detected using an ice nucleation assay. By employing a panel of phage, unknown bacteria may be typed based on the pattern of reactivity observed. The method is particularly useful for detecting viable bacteria which may have been debilitated by exposure to sterilizing conditions, such as in food processing. The method is also useful for tracking a target bacteria in the ambient environment.

L10: Entry 11 of 22 File: USPT

Sep 5, 1995

DOCUMENT-IDENTIFIER: US 5447836 A
TITLE: Bacterial detection by phage transduction of ice nucleation and other phenotypes

Brief Summary Paragraph Right (32):
The transducing particles of the present invention may be prepared by a number of conventional genetic manipulation techniques, including site-directed insertion of the marker gene cassette into the bacteriophage genome, packaging of the plasmid carrying the marker gene or a portion thereof into the bacteriophage coat, transposon mutagenesis, and homologous recombination. The choice among these alternatives depends on the nature of the bacterial host, the nature of the bacteriophage, and the extent to which the bacteriophage has been characterized.

12. Document ID: US 5187061 A

L10: Entry 12 of 22 File: USPT

Feb 16, 1993

US-PAT-NO: 5187061
DOCUMENT-IDENTIFIER: US 5187061 A

TITLE: Transducing particles and methods for their production

DATE-ISSUED: February 16, 1993

US-CL-CURRENT: 435/5; 435/235.1, 435/252.3, 435/252.33, 435/472

APPL-NO: 7/ 609331
DATE FILED: November 5, 1990

PARENT-CASE:

This application is a continuation-in-part of application Ser. No. 07/474,282, filed on Feb. 5, 1990, which was a continuation-in-part of application Ser. No. 07/253,160, filed on Oct. 4, 1988, now abandoned.

IN: Gutterson; Neal I., Tucker; William T., Wolber; Paul K.

AB: Viable bacteria may be detected in biological samples by exposing bacterial cultures obtained from the samples to transducing particles having a known host range. Such transducing particles carry a heterologous gene capable of altering the phenotype of the bacteria in a readily detectable manner. For example, the transducing particles may carry an ice nucleation gene and the alteration of phenotype may be detected using an ice nucleation assay. By employing a panel of phage, unknown bacteria nmay be typed based on the pattern of reactivity observed.

The transducing particles may be prepared by introducing a synthetic transposable element carrying the heterologous gene to a host carrying a prophage having the desired host range. After transposition, the host may be induced to a lytic cycle to release the transducing particles carrying the heterologous gene.

L10: Entry 12 of 22 File: USPT

Feb 16, 1993

DOCUMENT-IDENTIFIER: US 5187061 A

TITLE: Transducing particles and methods for their production

Detailed Description Paragraph Right (12):
The transducing particles of the present invention may be prepared by a number of conventional genetic manipulation techniques, including site-directed insertion of the marker gene cassette into the bacteriophage genome, packaging of the plasmid carrying the marker gene or a portion thereof into the bacteriophage coat, transposon mutagenesis, and homologous recombination. The choice among these alternatives depends on the nature of the bacterial host, the nature of the bacteriophage, and the extent to which the bacteriophage has been characterized.

13. Document ID: US 5102797 A

L10: Entry 13 of 22 File: USPT

Apr 7, 1992

US-PAT-NO: 5102797
DOCUMENT-IDENTIFIER: US 5102797 A

TITLE: Introduction of heterologous genes into bacteria using transposon flanked expression cassette and a binary vector system

DATE-ISSUED: April 7, 1992

US-CL-CURRENT: 435/473; 435/320.1

APPL-NO: 7/ 357492
DATE FILED: May 26, 1989
IN: Tucker; William T., Gutterson; Neal I.

AB: This invention relates to a new method for inserting heterologous genes into the genome of a bacteria using a combined plasmid. The combined plasmid provides a cis complementation of transposase genes and transposable elements. The method involves the homologous recombination of a carrier plasmid and a functions plasmid to form the combined plasmid. The carrier plasmid contains a transposable element which flanks a generic expression cassette.

The functions plasmid comprises transposase genes which complement the transposable element on the carrier plasmid.

The combined plasmid is then transferred to a recipient and the recipient is monitored for integration of the generic expression cassette into the genome. The combined plasmid is preferably created by an in vivo homologous recombination of the carrier and functions plasmids.

L10: Entry 13 of 22 File: USPT

Apr 7, 1992

DOCUMENT-IDENTIFIER: US 5102797 A
TITLE: Introduction of heterologous genes into bacteria using transposon flanked expression cassette and a binary vector system

Detailed Description Paragraph Right (13):
The functions plasmid contains, at a minimum, four elements: an intact selectable marker, a transposase gene(s), an origin of replication, and a sequence of nucleotides that are homologous with a region of the carrier plasmid. The intact selectable marker must function in the intermediate or donor host. Such markers are as described above and are typically antibiotic resistance (streptomycin resistance, kanamycin resistance, etc.) or a nutritional type marker such as beta-galactosidase.

CLAIMS:

1. A method for the insertion of foreign DNA into the genome of a recipient bacterium by introduction of a combined plasmid containing a transposable cassette and a transposase encoding sequence which is competent to transpose the cassette, said method comprising the steps of forming the combined plasmid from a carrier plasmid and a functions plasmid by homologous recombination wherein the recombination occurs between overlapping segments of a sselectable marker such that recombination results in the construction of a functional selectable marker.

16. A method for the insertion of foreign DNA into the chromosome of a recipient bacterium which comprises the steps of:

a. constructing a functions vector containing a transposase encoding sequence and the first part of a 2 part selectable marker;

b. constructing a carrier vector containing a transposable cassette which is complemented by the transposase sequence of the functions vector and the second part of a two part selectable marker wherein the second part comprises a segment which overlaps with the first part such that homologous recombination results in the construction of a functional selectable marker;

c. transforming an intermediate bacterial cell host with the functions and carrier vectors;

d. selecting for in vivo recombinants displaying the activity of the selectable marker; and

e. conjugating the bacterial cells of step d with a recipient cell.

17. A system for the insertion of foreign DNA into the genome of a recipient bacterium wherein the recipient bacterium receives a combined plasmid from a donor bacterium, said system comprising:

a. a functions plasmid containing a transposase encoding sequence selectable marker; and

b. a carrier plasmid containing a transposable cassette which is complemented by the transposase sequence of the functions vector and a sequence of nucleotides that are homologous with a sequence of nucleotides on the functions plasmid wherein the homologous sequence of the carrier and functions plasmids are portions of an overlapping region of a bisected selectable marker that is functional upon formation of the combination plasmid by homologous recombination.

14. Document ID: US 4626504 A

L10: Entry 14 of 22 File: USPT

Dec 2, 1986

US-PAT-NO: 4626504
DOCUMENT-IDENTIFIER: US 4626504 A

TITLE: DNA transfer vector for gram-negative bacteria

DATE-ISSUED: December 2, 1986

US-CL-CURRENT: 435/6; 435/252.2, 435/252.3, 435/252.33, 435/320.1, 435/477, 435/488, 536/23.1

APPL-NO: 6/ 510370
DATE FILED: July 1, 1983
IN: Puhler; Alfred, Simon; Reinhard

AB: Modified E. coli vectors are disclosed that are mobilizable to a wide range of gram-negative bacteria,
but are not self-transmissible. The modified E. coli plasmids replicate only in bacterial strains of the E. coli
group. Mobilizer strains of E. coli are also provided, as well as methods for employing the modified E. coli vectors
for transposon mutagenesis, site-specific gene transfer, and the construction of DNA libraries.

L10: Entry 14 of 22

File: USPT

Dec 2, 1986

DOCUMENT-IDENTIFIER: US 4626504 A
TITLE: DNA transfer vector for gram-negative bacteria

Brief Summary Paragraph Right (21):
Site-specific mutagenesis and site-specific gene transfer into recipient gram-negative organisms can be accomplished using the described Class I vectors. These procedures depend on the presence, in the Class I vector, of DNA segments homologous with segments in the recipient cell. When such vectors are transferred into the recipient cell, recombination can occur, between homologous segments on the vector and the host cell DNA. A single recombination event leads to co-integration of the entire vector with the host chromosome. A double recombination event yields replacement of a segment of the chromosomal DNA with the homologous segment from the vector. Such events will be detectable if a selection marker is incorporated within the region of homology. For example, if the region of homology contains a transposon carrying a drug-resistance marker, double homologous recombination yields a site-specific mutation selectable by the drug resistance carried by the inserted transposon. Similarly, the region of homology can be modified by the insertion of a new gene, foreign to the recipient, which is then incorporated into the recipient genome following the double homologous recombination events. The Class I vectors therefore provide a means for genetically engineering a wide range of gram-negative organisms, so that many of the useful properties of these organisms, e.g., ability to grow under unusual environmental conditions, can be exploited.

15. Document ID: JP 11225785 A

L10: Entry 15 of 22

File: JPAB

Aug 24, 1999

PUB-NO: JP411225785A
DOCUMENT-IDENTIFIER: JP 11225785 A
TITLE: OPTIMIZATION OF CELL FOR ENDOGENOUS GENE ACTIVATION

PUBN-DATE: August 24, 1999

INT-CL (IPC): C12 N 15/09; C12 N 5/10; C12 Q 1/68

APPL-NO: JP10342234
APPL-DATE: December 1, 1998
IN: HONOLD, KONRAD, HOLTSCHKE, THOMAS, STERN, ANNE

AB: PROBLEM TO BE SOLVED: To optimize the expression of a nucleic acid in cells by transfecting cells with a
vector comprising a heteroexpression control sequence or the like, positive selection marker gene, site-specific
recombinase target sequence and sequence capable of homologous recombination, followed by culturing the resultant
cells., SOLUTION: The expression of a nucleic acid sequence endogenous in eukaryocytes is optimized by the following
procedure: cells are transfected with a 1st vector comprising a 1st heteroexpression control sequence and a sequence
of a 1st amplification gene or the like, positive selection marker gene, at least two target sequences of a
site-specific recombinase, adjacent to the above sequences, and such a DNA sequence as to be adjacent to the above
sequences and homologous with the nucleic acid portion in the genome of the cells so as to be capable of homologous
recombination; the resulting transfected cells are cultured under such conditions as to cause the homologous
recombination of the above vector, and the resulting cells are isolated., COPYRIGHT: (C)1999,JPO

L10: Entry 15 of 22

File: JPAB

Aug 24, 1999

DOCUMENT-IDENTIFIER: JP 11225785 A
TITLE: OPTIMIZATION OF CELL FOR ENDOGENOUS GENE ACTIVATION

Abstract (1):
PROBLEM TO BE SOLVED: To optimize the expression of a nucleic acid in cells by transfecting cells with a vector comprising a heteroexpression control sequence or the like, positive selection marker gene, site-specific recombinase target sequence and sequence capable of homologous recombination, followed by culturing the resultant cells.

Abstract (2):
SOLUTION: The expression of a nucleic acid sequence endogenous in eukaryocytes is optimized by the following procedure: cells are transfected with a 1st vector comprising a 1st heteroexpression control sequence and a sequence of a 1st amplification gene or the like, positive selection marker gene, at least two target sequences of a site-specific recombinase, adjacent to the above sequences, and such a DNA sequence as to be adjacent to the above sequences and homologous with the nucleic acid portion in the genome of the cells so as to be capable of homologous recombination; the resulting transfected cells are cultured under such conditions as to cause the homologous recombination of the above vector, and the resulting cells are isolated.

16. Document ID: AU 200157078 A, WO 200179512 A2

L10: Entry 16 of 22

File: DWPI

Oct 30, 2001

DERWENT-ACC-NO: 2002-041337
DERWENT-WEEK: 200219

TITLE: New polynucleotide vectors, useful in recombinant DNA technology and genomics, particularly for facilitating selection of host cells having operably incorporated query genes and substitution of the query gene with a different gene

PRIORITY-DATA: 2000US-198498P (April 18, 2000)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
AU 200157078 A	October 30, 2001		000	
C12N015/63				
WO 200179512 A2	October 25, 2001	E	064	
C12N015/63				

APPLICATION-DATA:

PUB-NO	APPL-DATE	APPL-NO
DESCRIPTOR		
AU 200157078A	April 17, 2001	2001AU-0057078
AU 200157078A		WO 200179512 Based on
WO 200179512A2	April 17, 2001	2001WO-US12502

INT-CL (IPC): C12 N 15/63

IN: GREENE, A L, JARNIGAN, K, THODE, S, ZHOU, H

AB: NOVELTY - A new polynucleotide vector (I) comprises a regulatable promoter, a first recombinase target site, a second recombinase target site different from, a cloning site suitable for insertion of a test gene, an internal ribosome binding site (IRES), a optically-active marker-encoding sequence or a label sequence encoding a detectable marker, and a third recombinase target site., DETAILED DESCRIPTION - A new polynucleotide vector comprises a regulatable promoter, a first recombinase target site, a second recombinase target site different from, a cloning site suitable for insertion of a test gene, an internal ribosome binding site (IRES), a optically-active marker-encoding sequence or a label sequence encoding a detectable marker, and a third recombinase target site homologous to the first or second recombinase site., An INDEPENDENT CLAIM is also included for a method of selecting a host cell having a functioning test gene comprising:, (a) providing a host cell lacking a functioning test gene;, (b) inserting into the host cell the vector (I);, (c) selecting against cells that failed to incorporate the vector;, (d) inducing the regulatable promoter; and, (e) selecting for cells that express the detectable marker., USE - The vector and the method are useful in the fields of recombinant DNA technology and genomics. In particular, the vector and method are useful for target replacement and disruption of an integrated DNA sequence. The vector and the method are useful for facilitating the insertion of a query gene into a eukaryotic host cell, and the subsequent removal, insertion, and/or substitution of a different query gene and/or marker gene at the same site within the host cell.

L10: Entry 16 of 22 File: DWPI

Oct 30, 2001

DERWENT-ACC-NO: 2002-041337
DERWENT-WEEK: 200219

TITLE: New polynucleotide vectors, useful in recombinant DNA technology and genomics, particularly for facilitating selection of host cells having operably incorporated query genes and substitution of the query gene with a different gene

Basic Abstract Text:
DETAILED DESCRIPTION - A new polynucleotide vector comprises a regulatable promoter, a first recombinase target site, a second recombinase target site different from, a cloning site suitable for insertion of a test gene, an internal ribosome binding site (IRES), a optically-active marker-encoding sequence or a label sequence encoding a detectable marker, and a third recombinase target site homologous to the first or second recombinase site.

Basic Abstract Text (2):
DETAILED DESCRIPTION - A new polynucleotide vector comprises a regulatable promoter, a first recombinase target site, a second recombinase target site different from, a cloning site suitable for insertion of a test gene, an internal ribosome binding site (IRES), a optically-active marker-encoding sequence or a label sequence encoding a detectable marker, and a third recombinase target site homologous to the first or second recombinase site.

17. Document ID: WO 200147353 A1, AU 200125987 A, US 2001032340 A1

L10: Entry 17 of 22 File: DWPI

Jul 5, 2001

DERWENT-ACC-NO: 2001-425551
DERWENT-WEEK: 200145

TITLE: Producing transgenic animals, involves creating transgene whose expression interfere with sperm's ability to undergo fertilization, and placing it under post-meiotic spermatogenesis-specific promoter control

PRIORITY-DATA: 1999US-173096P (December 27, 1999), 2000US-0749709 (December 27, 2000)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
WO 200147353 A1	July 5, 2001	E	020	
A01K067/00				
AU 200125987 A	July 9, 2001			

000

A01K067/00
US 2001032340 A1
October 18, 2001
000

A01K067/27

APPLICATION-DATA:
PUB-NO
APPL-DATE
APPL-NO

DESCRIPTOR
WO 200147353A1
December 27, 2000
2000WO-US35275
AU 200125987A
December 27, 2000
2001AU-0025987
AU 200125987A
WO 200147353
Based on
US2001032340A1
December 27, 1999
1999US-173096P
Provisional
US2001032340A1
December 27, 2000
2000US-0749709

INT-CL (IPC): A01 K 67/00; A01 K 67/033; A01 K 67/27; C12 N 5/00; C12 N 5/02; C12 N 15/00; C12 N 15/09; C12 N 15/63; C12 N 15/70; C12 N 15/74; C12 N 15/85; C12 N 15/87
IN: COSTANTINI, F, LIU, C, WANG, J

AB: NOVELTY - Producing (P) transgenic animals (I) with somatic/germ cells containing transgene that alters the sex ratio of the offsprings, involves creating a transgene (T) whose expression can interfere with sperm's ability to undergo fertilization, placing (T) under control of post-meiotic spermatogenesis-specific promoter and using (T) to insert it on one of the sex chromosomes, to generate (I)., DETAILED DESCRIPTION - (P) involves preparing a transgene including in operable association at least one expression regulatory sequence (promoter) functional in a post-meiotic spermatogenesis-specific way, a DNA sequence encoding a toxic gene whose expression can interfere with sperm's ability to undergo fertilization, an optional DNA sequence encoding a selectable marker such as neomycin-, hygromycin- or puromycin-resistance gene, Hprt selection cassette, and diphtheria toxin gene, an optional loxP site-flanked intervening DNA sequence inserted between the post-meiotic promoter and the toxin gene, and the intervening sequence can prevent the transcription of the toxin transgene unless it is removed by Cre recombinase, an optional cellular localization signal sequence that restricts the ability of the mRNA and protein from the transgenes to randomly diffuse among the inter-connected haploid spermatids, and two optional flanking DNA sequences allowing the transgene to be inserted onto specific loci of the sex chromosome (X or Y chromosome) by homologous recombination method, creating transgenic animals using the transgene so that the transgene is inserted onto one of the two sex chromosomes, and mating the males of the transgenic animals with animals containing Cre recombinase activity to activate the transgene and identifying at least one transgenic animal with desirable reproduction feature, specifically, alteration of offspring's sex ratio., USE - The method is useful for producing transgenic animals having somatic/germ cells containing one or more transgenes whose expression results in alteration of the sex ratio of the offspring of the animals (claimed)., ADVANTAGE - The animals produced by the above said method are genetically modified, so that the trait can be passed from one generation to other. The method is advantageous than those trying to separate the X and Y sperms in the semen. Control of sex ratio is more precise and tricky separation process for each semen sample is eliminated. The method is suitable not only for the organisms using X and Y chromosomes, but also for Z and W chromosomes for sex determination. The method allows farmers to choose the preferred sex of farm animals to produce dairy and meat products, and allows laboratory animal suppliers to specifically increase the birth ratio of preferred gender., NOVELTY - Producing (P) transgenic animals (I) with somatic/germ cells containing transgene that alters the sex ratio of the offsprings, involves creating a transgene (T) whose expression can interfere with sperm's ability to undergo fertilization, placing (T) under control of post-meiotic spermatogenesis-specific promoter and using (T) to insert it on one of the sex chromosomes, to generate (I)., DETAILED DESCRIPTION - (P) involves preparing a transgene including in operable association at least one expression regulatory sequence (promoter) functional in a post-meiotic spermatogenesis-specific way, a DNA sequence encoding a toxic gene whose expression can interfere with sperm's ability to undergo fertilization, an optional DNA sequence encoding a selectable marker such as neomycin-, hygromycin- or puromycin-resistance gene, Hprt selection cassette, and diphtheria toxin gene, an optional loxP site-flanked intervening DNA sequence inserted between the post-meiotic promoter and the toxin gene, and the intervening sequence can prevent the transcription of the toxin transgene unless it is removed by Cre recombinase, an optional cellular localization signal sequence that restricts the ability of the mRNA and protein from the transgenes to randomly diffuse among the inter-connected haploid spermatids, and two optional flanking DNA sequences allowing the transgene to be inserted onto specific loci of the sex chromosome (X or Y chromosome) by homologous recombination method, creating transgenic animals using the transgene so that the transgene is inserted onto one of the two sex chromosomes, and mating the males of the transgenic animals with animals containing Cre recombinase activity to activate the transgene and identifying at least one transgenic animal with desirable reproduction feature, specifically, alteration of offspring's sex ratio., USE - The method is useful for producing transgenic animals having somatic/germ cells containing one or more transgenes whose expression results in alteration of the sex ratio of the offspring of the animals (claimed)., ADVANTAGE - The animals produced by the above said method are genetically modified, so that the trait can be passed from one generation to other. The method is advantageous than those trying to separate the X and Y sperms in the semen. Control of sex ratio is more precise and tricky separation process for each semen sample is eliminated. The method is suitable not only for the organisms using X and Y chromosomes, but also for Z and W chromosomes for sex determination. The method allows farmers to choose the preferred sex of farm animals to produce dairy and meat products, and allows laboratory animal suppliers to specifically increase the birth ratio of preferred gender.

L10: Entry 17 of 22
File: DWPI

Jul 5, 2001

DERWENT-ACC-NO: 2001-425551
DERWENT-WEEK: 200145

TITLE: Producing transgenic animals, involves creating transgene whose expression interfere with sperm's ability to undergo fertilization, and placing it under post-meiotic spermatogenesis-specific promoter control

Basic Abstract Text:
DETAILED DESCRIPTION - (P) involves preparing a transgene including in operable association at least one expression regulatory sequence (promoter) functional in a post-meiotic spermatogenesis-specific way, a DNA sequence encoding a toxic gene whose expression can interfere with sperm's ability to undergo fertilization, an optional DNA sequence encoding a selectable marker such as neomycin-, hygromycin- or puromycin-resistance gene, Hprt selection cassette, and diphtheria toxin gene, an optional loxP site-flanked intervening DNA sequence inserted between the post-meiotic promoter and the toxin gene, and the intervening sequence can prevent the transcription of the toxin transgene unless it is removed by Cre recombinase, an optional cellular localization signal sequence that restricts the ability of the mRNA and protein from the transgenes to randomly diffuse among the inter-connected haploid spermatids, and two optional flanking DNA sequences allowing the transgene to be inserted onto specific loci of the sex chromosome (X or Y chromosome) by homologous recombination method, creating transgenic animals using the transgene so that the transgene is inserted onto one of the two sex chromosomes, and mating the males of the transgenic animals with animals containing Cre recombinase activity to activate the transgene and identifying at least one transgenic animal with desirable reproduction feature, specifically, alteration of offspring's sex ratio.

Equivalent Abstract Text:
DETAILED DESCRIPTION - (P) involves preparing a transgene including in operable association at least one expression regulatory sequence (promoter) functional in a post-meiotic spermatogenesis-specific way, a DNA sequence encoding a toxic gene whose expression can interfere with sperm's ability to undergo fertilization, an optional DNA sequence encoding a selectable marker such as neomycin-, hygromycin- or puromycin-resistance gene, Hprt selection cassette, and diphtheria toxin gene, an optional loxP site-flanked intervening DNA sequence inserted between the post-meiotic promoter and the toxin gene, and the intervening sequence can prevent the transcription of the toxin transgene unless it is removed by Cre recombinase, an optional cellular localization signal sequence that restricts the ability of the mRNA and protein from the transgenes to randomly diffuse among the inter-connected haploid spermatids, and two optional flanking DNA sequences allowing the transgene to be inserted onto specific loci of the sex chromosome (X or Y chromosome) by homologous recombination method, creating transgenic animals using the transgene so that the transgene is inserted onto one of the two sex chromosomes, and mating the males of the transgenic animals with animals containing Cre recombinase activity to activate the transgene and identifying at least one transgenic animal with desirable reproduction feature, specifically, alteration of offspring's sex ratio.

Basic Abstract Text (2):
DETAILED DESCRIPTION - (P) involves preparing a transgene including in operable association at least one expression regulatory sequence (promoter) functional in a post-meiotic spermatogenesis-specific way, a DNA sequence encoding a toxic gene whose expression can interfere with sperm's ability to undergo fertilization, an optional DNA sequence encoding a selectable marker such as neomycin-, hygromycin- or puromycin-resistance gene, Hprt selection cassette, and diphtheria toxin gene, an optional loxP site-flanked intervening DNA sequence inserted between the post-meiotic promoter and the toxin gene, and the intervening sequence can prevent the transcription of the toxin transgene unless it is removed by Cre recombinase, an optional cellular localization signal sequence that restricts the ability of the mRNA and protein from the transgenes to randomly diffuse among the inter-connected haploid spermatids, and two optional flanking DNA sequences allowing the transgene to be inserted onto specific loci of the sex chromosome (X or Y chromosome) by homologous recombination method, creating transgenic animals using the transgene so that the transgene is inserted onto one of the two sex chromosomes, and mating the males of the transgenic animals with animals containing Cre recombinase activity to activate the transgene and identifying at least one transgenic animal with desirable reproduction feature, specifically, alteration of offspring's sex ratio.

Equivalent Abstract Text (2):
DETAILED DESCRIPTION - (P) involves preparing a transgene including in operable association at least one expression regulatory sequence (promoter) functional in a post-meiotic spermatogenesis-specific way, a DNA sequence encoding a toxic gene whose expression can interfere with sperm's ability to undergo fertilization, an optional DNA sequence encoding a selectable marker such as neomycin-, hygromycin- or puromycin-resistance gene, Hprt selection cassette, and diphtheria toxin gene, an optional loxP site-flanked intervening DNA sequence inserted between the post-meiotic promoter and the toxin gene, and the intervening sequence can prevent the transcription of the toxin transgene unless it is removed by Cre recombinase, an optional cellular localization signal sequence that restricts the ability of the mRNA and protein from the transgenes to randomly diffuse among the inter-connected haploid spermatids, and two optional flanking DNA sequences allowing the transgene to be inserted onto specific loci of the sex chromosome (X or Y chromosome) by homologous recombination method, creating transgenic animals using the transgene so that the transgene is inserted onto one of the two sex chromosomes, and mating the males of the transgenic animals with animals containing Cre recombinase activity to activate the transgene and identifying at least one transgenic animal with desirable reproduction feature, specifically, alteration of offspring's sex ratio.

18. Document ID: MX 9809910 A1, EP 919619 A2, AU 9893284 A, JP 11225785 A, CA 2252970 A1, CN 1240829 A, BR 9805682 A, KR 99062655 A, ZA 9810915 A

L10: Entry 18 of 22 File: DWPI

Jul 1, 1999

DERWENT-ACC-NO: 1999-304823
DERWENT-WEEK: 200061

TITLE: Optimizing expression of endogenous genes in eukaryotic cells for production and for testing for effect of non-coding regions

PRIORITY-DATA: 1997EP-0121075 (December 1, 1997)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
MX 9809910 A1	July 1, 1999		000	C12N015/85
EP 919619 A2	June 2, 1999	G	030	C12N015/12
AU 9893284 A	June 17, 1999		000	C12N015/79
JP 11225785 A	August 24, 1999		019	C12N015/09
CA 2252970 A1	June 1, 1999	E	000	C12N015/90

CN 1240829 A
January 12, 2000
000
C12N015/63
BR 9805682 A
April 11, 2000
000
C07K014/505
KR 99062655 A
July 26, 1999
000
C12N015/63
ZA 9810915 A
August 30, 2000
071
C12N000/00

APPLICATION-DATA:
PUB-NO
APPL-DATE
APPL-NO

DESCRIPTOR
MX 9809910A1
November 26, 1998
1998MX-0009910
EP 919619A2
December 1, 1998
1998EP-0122807
AU 9893284A
November 19, 1998
1998AU-0093284
JP 11225785A
December 1, 1998
1998JP-0342234
CA 2252970A1
November 30, 1998
1998CA-2252970
CN 1240829A
December 1, 1998
1998CN-0127178
BR 9805682A
December 1, 1998
1998BR-0005682
KR 99062655A
November 30, 1998
1998KR-0051930
ZA 9810915A
November 30, 1998
1998ZA-0010915

INT-CL (IPC): C07 K 14/505; C12 N 0/00; C12 N 5/10; C12 N 5/22; C12 N 15/09; C12 N 15/12; C12 N 15/63; C12 N 15/65; C12 N 15/67; C12 N 15/79; C12 N 15/85; C12 N 15/90; C12 Q 1/68; C12 N 5/10; C12 R 1:91

IN: HOLTSCHKE, T, HONOLD, K, STERN, A

AB: NOVELTY - Expression of an endogenous nucleic acid sequence (I) in a eukaryotic cell is altered by homologous recombination (HR) of either a heterologous expression control sequence (HEC) and/or an amplification gene (AG) or at least one nucleic acid sequence (A) that binds to an activating protein (AP)., DETAILED DESCRIPTION - The target cell is transfected with a vector that comprises:, (1) at least one of HEC and AG, a positive selection marker gene (SMGP), at least two target sequences (TS) for a site specific recombinase (SSR), flanking HEC and AG and SMGP and flanking HEC, AG, SMGP and TS, DNA sequences homologous with a region of the cell genome that allow HR to occur; or, (2) at least one (A), SMGP, and flanking DNA sequences as above., Transfected cells are cultured to allow HR to take place., USE - The method is used to optimize gene expression (especially for protein production) in eukaryotic cells and to test for the effect of noncoding sequences on gene expression., ADVANTAGE - Site-specific integration of heterologous genes overcomes problems associated with non-specific integration. The method allows simple selection of cells containing the inserted sequence, i.e. of stable clones with optimal production properties. It also allows mutations, e.g. those that increase protein activity, to be introduced into endogenous genes simultaneously with altering the expression level.

L10: Entry 18 of 22
File: DWPI

Jul 1, 1999

DERWENT-ACC-NO: 1999-304823
DERWENT-WEEK: 200061

TITLE: Optimizing expression of endogenous genes in eukaryotic cells for production and for testing for effect of non-coding regions

Basic Abstract Text:
(1) at least one of HEC and AG, a positive selection marker gene (SMGP), at least two target sequences (TS) for a site specific recombinase (SSR), flanking HEC and AG and SMGP and flanking HEC, AG, SMGP and TS, DNA sequences homologous with a region of the cell genome that allow HR to occur; or

Basic Abstract Text (3):
(1) at least one of HEC and AG, a positive selection marker gene (SMGP), at least two target sequences (TS) for a site specific recombinase (SSR), flanking HEC and AG and SMGP and flanking HEC, AG, SMGP and TS, DNA sequences homologous with a region of the cell genome that allow HR to occur; or

19. Document ID: WO 9856903 A1, AU 9877294 A

L10: Entry 19 of 22
File: DWPI

Dec 17, 1998

DERWENT-ACC-NO: 1999-080896
DERWENT-WEEK: 199907

TITLE: Targetting heterologous DNA to an exon by random transposon integration - for production of transgenic animal models, or the diagnosis and treatment for Cushing's and Addison's diseases

PRIORITY-DATA: 1997US-049523P (June 13, 1997)

PATENT-FAMILY:
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LANGUAGE
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WO 9856903 A1
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APPLICATION-DATA:
PUB-NO
APPL-DATE
APPL-NO

DESCRIPTOR
WO 9856903A1
June 8, 1998
1998WO-US12131
AU 9877294A
June 8, 1998
1998AU-0077294
AU 9877294A
WO 9856903
Based on

INT-CL (IPC): A01 K 67/00; C12 N 15/00; C12 N 15/09; C12 N 15/11; C12 N 15/63; C12 N 15/85; C12 N 15/86; C12 Q 1/68; G01 N 33/53
IN: LEDER, P, WESTPHAL, C H

AB: Targeting of heterologous DNA (I) to integrate into an exon in eukaryotic cells comprises: (a) generating a pool of bacteria that contain plasmids into which a transposon containing (I) has been randomly integrated; (b) assessing polymerase chain reaction (PCR) amplification products from the pool, using exon-specific primers, to isolate a bacterium containing a plasmid into which the transposon is integrated in a copy of the exon; (c) transferring the selected plasmid to eukaryotic cells by homologous recombination; and (d) screening genomic DNA from the cell to confirm integration of (I) into the exon., Also new are: (1) transposon having a selectable marker (SM) cassette containing SM linked to a promoter, or its hybrid, functional in both eukaryotic and prokaryotic cells; (2) eukaryotic cells containing an endogenous exon, or endogenous 7b2 gene, into which has been integrated a transposon comprising DNA encoding an SM; (3) transgenic animals having an abnormal genotype that produces at least one symptom of Cushing's disease; (4) nucleic acid vector that can undergo homologous recombination with an endogeous 7b2 gene, resulting in disruption of this gene; (5) diagnosing (a predisposition to) an endocrine disorder in mammals by detecting abnormal expression of the 7b2 gene or by detecting a mutation in this gene; and (6) method for identifying agents (A) potentially useful for treating endocrine diseases., USE - The method is used to generate transgenic animals (in this case the eukaryotic cells is an embryonic cell), both knockout and knockin animals, for use in identifying therapeutic and diagnostic agents., The method of (5) is used to detect reduced/increased expression for diagnosis of hypo- or hyper-cortisolism diseases (specifically Cushing's and Addison's), or hyperglycaemia (specifically diabetes), and (A) are used for treating these disorders (claimed). Particularly the 7b2 protein (or DNA encoding it) is used to treat Cushing's disease or hypoglycaemia, while sequences antisense to 7b2, antibodies that neutralise 7b2 protein and fragments of this protein are used to treat Addison's disease or diabetes (claimed)., ADVANTAGE - The method uses a simple in vitro reaction (with commercial transposons and integrases) to generate random insertions in a knockout vector. The transpositional events are selected from a marker in the transposon and insertion into exonic sequences confirmed. Only a few days are needed to produce a construct for transfer to embryonic cells and different exons within the same genomic clones may be targeted, e.g. to produce different truncated proteins. Many transposon reactions may be performed simultaneously.

L10: Entry 19 of 22

File: DWPI

Dec 17, 1998

DERWENT-ACC-NO: 1999-080896
DERWENT-WEEK: 199907

TITLE: Targetting heterologous DNA to an exon by random transposon integration - for production of transgenic animal models, or the diagnosis and treatment for Cushing's and Addison's diseases

Basic Abstract Text:
Also new are: (1) transposon having a selectable marker (SM) cassette containing SM linked to a promoter, or its hybrid, functional in both eukaryotic and prokaryotic cells; (2) eukaryotic cells containing an endogenous exon, or endogenous 7b2 gene, into which has been integrated a transposon comprising DNA encoding an SM; (3) transgenic animals having an abnormal genotype that produces at least one symptom of Cushing's disease; (4) nucleic acid vector that can undergo homologous recombination with an endogeous 7b2 gene, resulting in disruption of this gene; (5) diagnosing (a predisposition to) an endocrine disorder in mammals by detecting abnormal expression of the 7b2 gene or by detecting a mutation in this gene; and (6) method for identifying agents (A) potentially useful for treating endocrine diseases.
Basic Abstract Text (2):
Also new are: (1) transposon having a selectable marker (SM) cassette containing SM linked to a promoter, or its hybrid, functional in both eukaryotic and prokaryotic cells; (2) eukaryotic cells containing an endogenous exon, or endogenous 7b2 gene, into which has been integrated a transposon comprising DNA encoding an SM; (3) transgenic animals having an abnormal genotype that produces at least one symptom of Cushing's disease; (4) nucleic acid vector that can undergo homologous recombination with an endogeous 7b2 gene, resulting in disruption of this gene; (5) diagnosing (a predisposition to) an endocrine disorder in mammals by detecting abnormal expression of the 7b2 gene or by detecting a mutation in this gene; and (6) method for identifying agents (A) potentially useful for treating endocrine diseases.

20. Document ID: US 6110736 A, WO 9417176 A1, EP 686191 A1, US 5527695 A, US 5744336 A, US 5910415 A

L10: Entry 20 of 22

File: DWPI

Aug 29, 2000

DERWENT-ACC-NO: 1994-264090
DERWENT-WEEK: 200043

TITLE: DNA constructs - for creating transgenic eukaryotic cells

PRIORITY-DATA: 1993US-0010997 (January 29, 1993), 1996US-0612551 (March 8, 1996), 1998US-0006232 (January 13, 1998), 1998US-0211408 (December 15, 1998)

PATENT-FAMILY:
PUB-NO
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US 6110736 A	August 29, 2000		000
C12N015/63 WO 9417176 A1	August 4, 1994	E	079
C12N005/00 EP 686191 A1	December 13, 1995	E	000
C12N005/00 US 5527695 A	June 18, 1996		027
C12N015/00 US 5744336 A	April 28, 1998		028
C07H021/04 US 5910415 A	June 8, 1999		000
C12Q001/68			

APPLICATION-DATA:

PUB-NO	APPL-DATE	APPL-NO	
DESCRIPTOR			
US 6110736A	January 29, 1993	1993US-0010997	Div ex
US 6110736A	March 8, 1996	1996US-0612551	Div ex
US 6110736A	January 13, 1998	1998US-0006232	Cont of
US 6110736A	December 15, 1998	1998US-0211408	
US 6110736A		US 5527695	Div ex
US 6110736A		US 5744336	Div ex
US 6110736A		US 5910415	Cont of
WO 9417176A1	January 27, 1994	1994WO-US00927	
EP 686191A1	January 27, 1994	1994EP-0907893	
EP 686191A1	January 27, 1994	1994WO-US00927	
EP 686191A1		WO 9417176	Based on
US 5527695A	January 29, 1993	1993US-0010997	
US 5744336A	January 29, 1993	1993US-0010997	Div ex
US 5744336A	March 8, 1996	1996US-0612551	
US 5744336A		US 5527695	Div ex
US 5910415A	January 29, 1993	1993US-0010997	Div ex
US 5910415A	March 8, 1996	1996US-0612551	Div ex
US 5910415A	January 13, 1998	1998US-0006232	
US 5910415A		US 5527695	Div ex
US 5910415A		US 5744336	Div ex

INT-CL (IPC): A01 H 1/04; A01 H 4/00; A01 H 5/00; A01 H 5/10; C07 H 21/04; C12 N 5/00; C12 N 5/04; C12 N 15/00; C12 N 15/09; C12 N 15/63; C12 N 15/82; C12 Q 1/68

IN: HODGES, T K, LYZNIK, L A

AB: The following are new: (1) a DNA construct (I) for transforming a eukaryotic cell comprising: (a) a multifunctional DNA sequence comprising: (i) a gene encoding a selectable marker operably linked to (ii) regulatory sequences for eukaryotic gene expression; and (iii) a sequence of interest flanked by (iv) sequences homologous to eukaryotic cell sequences; and (b) a pair of directly repeating site-specific (s-s) recombination sequences; (2) a DNA construct (II) for inserting a DNA sequence of interest into eukaryotic cell DNA comprising a multifunctional DNA sequence comprising: (i) a gene encoding a 1st s-s recombinase capable of recognising 1st s-s recombination sequences; (ii) a DNA sequence targeted for inversion via homologous recombination into eukaryotic cell DNA, comprising a sequence of interest and excisable selection region and flanked by: (iii) a sequence homologous to eukaryotic cell sequences, where the excisable selection region comprises a gene encoding a selectable marker and a gene encoding a 2nd s-s recombinase capable of recognising a 2nd s-s recombination sequence, both genes capable of eukaryotic gene expression, and the excisable region is flanked by: (iv) a pair of directly repeating s-s recombination sequences; and (3) a DNA construct (III) for transforming eukaryotic cells comprising: (a) a multifunctional DNA sequence comprising: (i) a gene encoding a selectable marker operably linked to (ii) regulatory sequences for eukaryotic gene expression; (iii) a DNA sequence targeted for inversion into the eukaryotic cell having less than or equal to 1 polylinker region and flanked by: (iv) nucleotide sequences homologous to eukaryotic cell sequences; and (b) a flanking pair of directly-repeated s-s recombination sequences., Also claimed are: (4) a plant entity comprising a plant cell, seed or plant, produced from the in vitro introduction of an exogenous DNA fragment into a plant cell; (5) a method for directly selecting for insertion of a DNA sequence of interest into a specific sequence of an organism's DNA comprising: (a) introducing (II) into an organism's cells; (b) applying selection means to isolate cells contg. (II) integrated into cellular DNA; (c) removing randomly inserted DNA constructs; (d) applying selection means to isolate cells having the targeted DNA sequence integrated into the

organism's DNA via a homologous recombination event; (e) removing the excisable selection region; and (f) culturing the resultant cells to regenerate an entire organism; and (6) a kit contg. (III) and an inducer cpd. capable of inducing an inducible promoter., USE - (I) can be used to target a DNA sequence of interest into a specific site of a host cell's DNA. (II) is useful for directly selecting for insertion of a DNA sequence of interest into a specific sequence of an organism's DNA. Fertile, transgenic plants can be produced (claimed) contg. a DNA sequence of interest, utilising (I), (II) or (III)., A method for the production of fertile, transgenic plants wherein the transgenic plant has a DNA sequence of interest integrated at a predetermined DNA sequence of the plant, said method comprising the steps of, introducing into plant cells a DNA construct comprising, a multifunctional DNA sequence flanked by a pair of directly repeated site-specific recombination sequences,, said multifunctional DNA sequence comprising a gene encoding a selectable marker, and a DNA sequence of interest,, wherein said DNA sequence of interest is flanked by nucleotide sequences sharing homology to the predetermined nucleotide sequence present in the plant cell, and the selectable marker gene is operably linked to regulatory sequences capable of expressing the gene in the plant cell,, selecting for plant cells having said DNA construct integrated into the DNA of the plant cell,, eliminating randomly inserted DNA constructs through expression of a recombinase gene capable of initiating recombination at the site-specific recombinase sequences in the plant cells,, identifying cells having said DNA sequence of interest integrated into the plant's DNA via a homologous recombination event, and, culturing said identified cells to generate an entire plant., The following are new: (1) a DNA construct (I) for transforming a eukaryotic cell comprising: (a) a multifunctional DNA sequence comprising: (i) a gene encoding a selectable marker operably linked to (ii) regulatory sequences for eukaryotic gene expression; and (iii) a sequence of interest flanked by (iv) sequences homologous to eukaryotic cell sequences; and (b) a pair of directly repeating site-specific (s-s) recombination sequences; (2) a DNA construct (II) for inserting a DNA sequence of interest into eukaryotic cell DNA comprising a multifunctional DNA sequence comprising: (i) a gene encoding a 1st s-s recombinase capable of recognising 1st s-s recombination sequences; (ii) a DNA sequence targeted for inversion via homologous recombination into eukaryotic cell DNA, comprising a sequence of interest and excisable selection region and flanked by: (iii) a sequence homologous to eukaryotic cell sequences, where the excisable selection region comprises a gene encoding a selectable marker and a gene encoding a 2nd s-s recombinase capable of recognising a 2nd s-s recombination sequence, both genes capable of eukaryotic gene expression, and the excisable region is flanked by: (iv) a pair of directly repeating s-s recombination sequences; and (3) a DNA construct (III) for transforming eukaryotic cells comprising: (a) a multifunctional DNA sequence comprising: (i) a gene encoding a selectable marker operably linked to (ii) regulatory sequences for eukaryotic gene expression; (iii) a DNA sequence targeted for inversion into the eukaryotic cell having less than or equal to 1 polylinker region and flanked by: (iv) nucleotide sequences homologous to eukaryotic cell sequences; and (b) a flanking pair of directly-repeated s-s recombination sequences., Also claimed are: (4) a plant entity comprising a plant cell, seed or plant, produced from the in vitro introduction of an exogenous DNA fragment into a plant cell; (5) a method for directly selecting for insertion of a DNA sequence of interest into a specific sequence of an organism's DNA comprising: (a) introducing (II) into an organism's cells; (b) applying selection means to isolate cells contg. (II) integrated into cellular DNA; (c) removing randomly inserted DNA constructs; (d) applying selection means to isolate cells having the targeted DNA sequence integrated into the organism's DNA via a homologous recombination event;, (e) removing the excisable selection region; and (f) culturing the resultant cells to regenerate an entire organism; and (6) a kit contg. (III) and an inducer cpd. capable of inducing an inducible promoter., USE - (I) can be used to target a DNA sequence of interest into a specific site of a host cell's DNA. (II) is useful for directly selecting for insertion of a DNA sequence of interest into a specific sequence of an organism's DNA. Fertile, transgenic plants can be produced (claimed) contg. a DNA sequence of interest, utilising (I), (II) or (III)., The following are new: (1) a DNA construct (I) for transforming a eukaryotic cell comprising: (a) a multifunctional DNA sequence comprising: (i) a gene encoding a selectable marker operably linked to (ii) regulatory sequences for eukaryotic gene expression; and (iii) a sequence of interest flanked by (iv) sequences homologous to eukaryotic cell sequences; and (b) a pair of directly repeating site-specific (s-s) recombination sequences; (2) a DNA construct (II) for inserting a DNA sequence of interest into eukaryotic cell DNA comprising a multifunctional DNA sequence comprising: (i) a gene encoding a 1st s-s recombinase capable of recognising 1st s-s recombination sequences; (ii) a DNA sequence targeted for inversion via homologous recombination into eukaryotic cell DNA, comprising a sequence of interest and excisable selection region and flanked by: (iii) a sequence homologous to eukaryotic cell sequences, where the excisable selection region comprises a gene encoding a selectable marker and a gene encoding a 2nd s-s recombinase capable of recognising a 2nd s-s recombination sequence, both genes capable of eukaryotic gene expression, and the excisable region is flanked by: (iv) a pair of directly repeating s-s recombination sequences; and (3) a DNA construct (III) for transforming eukaryotic cells comprising: (a) a multifunctional DNA sequence comprising: (i) a gene encoding a selectable marker operably linked to (ii) regulatory sequences for eukaryotic gene expression; (iii) a DNA sequence targeted for inversion into the eukaryotic cell having less than or equal to 1 polylinker region and flanked by: (iv) nucleotide sequences homologous to eukaryotic cell sequences; and (b) a flanking pair of directly-repeated s-s recombination sequences., Also claimed are: (4) a plant entity comprising a plant cell, seed or plant, produced from the in vitro introduction of an exogenous DNA fragment into a plant cell; (5) a method for directly selecting for insertion of a DNA sequence of interest into a specific sequence of an organism's DNA comprising: (a) introducing (II) into an organism's cells; (b) applying selection means to isolate cells contg. (II) integrated into cellular DNA; (c) removing randomly inserted DNA constructs; (d) applying selection means to isolate cells having the targeted DNA sequence integrated into the organism's DNA via a homologous recombination event; (e) removing the excisable selection region; and (f) culturing the resultant cells to regenerate an entire organism; and (6) a kit contg. (III) and an inducer cpd. capable of inducing an inducible promoter., USE - (I) can be used to target a DNA sequence of interest into a specific site of a host cell's DNA. (II) is useful for directly selecting for insertion of a DNA sequence of interest into a specific sequence of an organism's DNA. Fertile, transgenic plants can be produced (claimed) contg. a DNA sequence of interest, utilising (I), (II) or (III)., The following are new: (1) a DNA construct (I) for transforming a eukaryotic cell comprising: (a) a multifunctional DNA sequence comprising: (i) a gene encoding a selectable marker operably linked to (ii) regulatory sequences for eukaryotic gene expression; and (iii) a sequence of interest flanked by (iv) sequences homologous to eukaryotic cell sequences; and (b) a pair of directly repeating site-specific (s-s) recombination sequences; (2) a DNA construct (II) for inserting a DNA sequence of interest into eukaryotic cell DNA comprising a multifunctional DNA sequence comprising: (i) a gene encoding a 1st s-s recombinase capable of recognising 1st s-s recombination sequences; (ii) a DNA sequence targeted for inversion via homologous recombination into eukaryotic cell DNA, comprising a sequence of interest and excisable selection region and flanked by: (iii) a sequence homologous to eukaryotic cell sequences, where the excisable selection region comprises a gene encoding a selectable marker and a gene encoding a 2nd s-s recombinase capable of

recognising a 2nd s-s recombination sequence, both genes capable of eukaryotic gene expression, and the excisable region is flanked by: (iv) a pair of directly repeating s-s recombination sequences; and (3) a DNA construct (III) for transforming eukaryotic cells comprising: (a) a multifunctional DNA sequence comprising: (i) a gene encoding a selectable marker operably linked to (ii) regulatory sequences for eukaryotic gene expression; (iii) a DNA sequence targeted for inversion into the eukaryotic cell having less than or equal to 1 polylinker region and flanked by: (iv) nucleotide sequences homologous to eukaryotic cell sequences; and (b) a flanking pair of directly-repeated s-s recombination sequences., Also claimed are: (4) a plant entity comprising a plant cell, seed or plant, produced from the in vitro introduction of an exogenous DNA fragment into a plant cell; (5) a method for directly selecting for insertion of a DNA sequence of interest into a specific sequence of an organism's DNA comprising: (a) introducing (II) into an organism's cells; (b) applying selection means to isolate cells contg. (II) integrated into cellular DNA; (c) removing randomly inserted DNA constructs; (d) applying selection means to isolate cells having the targeted DNA sequence integrated into the organism's DNA via a homologous recombination event; (e) removing the excisable selection region; and (f) culturing the resultant cells to regenerate an entire organism; and (6) a kit contg. (III) and an inducer cpd. capable of inducing an inducible promoter., USE - (I) can be used to target a DNA sequence of interest into a specific site of a host cell's DNA. (II) is useful for directly selecting for insertion of a DNA sequence of interest into a specific sequence of an organism's DNA. Fertile, transgenic plants can be produced (claimed) contg. a DNA sequence of interest, utilising (I), (II) or (III).

L10: Entry 20 of 22

File: DWPI

Aug 29, 2000

DERWENT-ACC-NO: 1994-264090
DERWENT-WEEK: 200043

TITLE: DNA constructs - for creating transgenic eukaryotic cells

Basic Abstract Text:
The following are new: (1) a DNA construct (I) for transforming a eukaryotic cell comprising: (a) a multifunctional DNA sequence comprising: (i) a gene encoding a selectable marker operably linked to (ii) regulatory sequences for eukaryotic gene expression; and (iii) a sequence of interest flanked by (iv) sequences homologous to eukaryotic cell sequences; and (b) a pair of directly repeating site-specific (s-s) recombination sequences; (2) a DNA construct (II) for inserting a DNA sequence of interest into eukaryotic cell DNA comprising a multifunctional DNA sequence comprising: (i) a gene encoding a 1st s-s recombinase capable of recognising 1st s-s recombination sequences; (ii) a DNA sequence targeted for inversion via homologous recombination into eukaryotic cell DNA, comprising a sequence of interest and excisable selection region and flanked by: (iii) a sequence homologous to eukaryotic cell sequences, where the excisable selection region comprises a gene encoding a selectable marker and a gene encoding a 2nd s-s recombinase capable of recognising a 2nd s-s recombination sequence, both genes capable of eukaryotic gene expression, and the excisable region is flanked by: (iv) a pair of directly repeating s-s recombination sequences; and (3) a DNA construct (III) for transforming eukaryotic cells comprising: (a) a multifunctional DNA sequence comprising: (i) a gene encoding a selectable marker operably linked to (ii) regulatory sequences for eukaryotic gene expression; (iii) a DNA sequence targeted for inversion into the eukaryotic cell having less than or equal to 1 polylinker region and flanked by: (iv) nucleotide sequences homologous to eukaryotic cell sequences; and (b) a flanking pair of directly-repeated s-s recombination sequences.

Equivalent Abstract Text:
The following are new: (1) a DNA construct (I) for transforming a eukaryotic cell comprising: (a) a multifunctional DNA sequence comprising: (i) a gene encoding a selectable marker operably linked to (ii) regulatory sequences for eukaryotic gene expression; and (iii) a sequence of interest flanked by (iv) sequences homologous to eukaryotic cell sequences; and (b) a pair of directly repeating site-specific (s-s) recombination sequences; (2) a DNA construct (II) for inserting a DNA sequence of interest into eukaryotic cell DNA comprising a multifunctional DNA sequence comprising: (i) a gene encoding a 1st s-s recombinase capable of recognising 1st s-s recombination sequences; (ii) a DNA sequence targeted for inversion via homologous recombination into eukaryotic cell DNA, comprising a sequence of interest and excisable selection region and flanked by: (iii) a sequence homologous to eukaryotic cell sequences, where the excisable selection region comprises a gene encoding a selectable marker and a gene encoding a 2nd s-s recombinase capable of recognising a 2nd s-s recombination sequence, both genes capable of eukaryotic gene expression, and the excisable region is flanked by: (iv) a pair of directly repeating s-s recombination sequences; and (3) a DNA construct (III) for transforming eukaryotic cells comprising: (a) a multifunctional DNA sequence comprising: (i) a gene encoding a selectable marker operably linked to (ii) regulatory sequences for eukaryotic gene expression; (iii) a DNA sequence targeted for inversion into the eukaryotic cell having less than or equal to 1 polylinker region and flanked by: (iv) nucleotide sequences homologous to eukaryotic cell sequences; and (b) a flanking pair of directly-repeated s-s recombination sequences.

Equivalent Abstract Text:
The following are new: (1) a DNA construct (I) for transforming a eukaryotic cell comprising: (a) a multifunctional DNA sequence comprising: (i) a gene encoding a selectable marker operably linked to (ii) regulatory sequences for eukaryotic gene expression; and (iii) a sequence of interest flanked by (iv) sequences homologous to eukaryotic cell sequences; and (b) a pair of directly repeating site-specific (s-s) recombination sequences; (2) a DNA construct (II) for inserting a DNA sequence of interest into eukaryotic cell DNA comprising a multifunctional DNA sequence comprising: (i) a gene encoding a 1st s-s recombinase capable of recognising 1st s-s recombination sequences; (ii) a DNA sequence targeted for inversion via homologous recombination into eukaryotic cell DNA, comprising a sequence of interest and excisable selection region and flanked by: (iii) a sequence homologous to eukaryotic cell sequences, where the excisable selection region comprises a gene encoding a selectable marker and a gene encoding a 2nd s-s recombinase capable of recognising a 2nd s-s recombination sequence, both genes capable of eukaryotic gene expression, and the excisable region is flanked by: (iv) a pair of directly repeating s-s recombination sequences; and (3) a DNA construct (III) for transforming eukaryotic cells comprising: (a) a multifunctional DNA sequence comprising: (i) a gene encoding a selectable marker operably linked to (ii) regulatory sequences for eukaryotic gene expression; (iii) a DNA sequence targeted for inversion into the eukaryotic cell having less than or equal to 1 polylinker region and flanked by: (iv) nucleotide sequences homologous to eukaryotic cell sequences; and (b) a flanking pair of directly-repeated s-s recombination sequences.

Equivalent Abstract Text:
The following are new: (1) a DNA construct (I) for transforming a eukaryotic cell comprising: (a) a multifunctional DNA sequence comprising: (i) a gene encoding a selectable marker operably linked to (ii) regulatory sequences for eukaryotic gene expression; and (iii) a sequence of interest flanked by (iv) sequences homologous to eukaryotic cell sequences; and (b) a pair of directly repeating site-specific (s-s) recombination sequences; (2) a DNA construct (II) for inserting a DNA sequence of interest into eukaryotic cell DNA comprising a multifunctional DNA sequence comprising: (i) a gene encoding a 1st s-s recombinase capable of recognising 1st s-s recombination sequences; (ii) a DNA sequence targeted for inversion via homologous recombination into eukaryotic cell DNA, comprising a sequence of interest and excisable selection region and flanked by: (iii) a sequence homologous to eukaryotic cell sequences, where the excisable selection region comprises a gene encoding a selectable marker and a gene encoding a 2nd s-s recombinase capable of recognising a 2nd s-s

recombination sequence, both genes capable of eukaryotic gene expression, and the excisable region is flanked by: (iv) a pair of directly repeating s-s recombination sequences; and (3) a DNA construct (III) for transforming eukaryotic cells comprising: (a) a multifunctional DNA sequence comprising: (i) a gene encoding a selectable marker operably linked to (ii) regulatory sequences for eukaryotic gene expression; (iii) a DNA sequence targeted for inversion into the eukaryotic cell having less than or equal to 1 polylinker region and flanked by: (iv) nucleotide sequences homologous to eukaryotic cell sequences; and (b) a flanking pair of directly-repeated s-s recombination sequences.

Basic Abstract Text (1):
The following are new: (1) a DNA construct (I) for transforming a eukaryotic cell comprising: (a) a multifunctional DNA sequence comprising: (i) a gene encoding a selectable marker operably linked to (ii) regulatory sequences for eukaryotic gene expression; and (iii) a sequence of interest flanked by (iv) sequences homologous to eukaryotic cell sequences; and (b) a pair of directly repeating site-specific (s-s) recombination sequences; (2) a DNA construct (II) for inserting a DNA sequence of interest into eukaryotic cell DNA comprising a multifunctional DNA sequence comprising: (i) a gene encoding a 1st s-s recombinase capable of recognising 1st s-s recombination sequences; (ii) a DNA sequence targeted for inversion via homologous recombination into eukaryotic cell DNA, comprising a sequence of interest and excisable selection region and flanked by: (iii) a sequence homologous to eukaryotic cell sequences, where the excisable selection region comprises a gene encoding a selectable marker and a gene encoding a 2nd s-s recombinase capable of recognising a 2nd s-s recombination sequence, both genes capable of eukaryotic gene expression, and the excisable region is flanked by: (iv) a pair of directly repeating s-s recombination sequences; and (3) a DNA construct (III) for transforming eukaryotic cells comprising: (a) a multifunctional DNA sequence comprising: (i) a gene encoding a selectable marker operably linked to (ii) regulatory sequences for eukaryotic gene expression; (iii) a DNA sequence targeted for inversion into the eukaryotic cell having less than or equal to 1 polylinker region and flanked by: (iv) nucleotide sequences homologous to eukaryotic cell sequences; and (b) a flanking pair of directly-repeated s-s recombination sequences.

Equivalent Abstract Text (10):
The following are new: (1) a DNA construct (I) for transforming a eukaryotic cell comprising: (a) a multifunctional DNA sequence comprising: (i) a gene encoding a selectable marker operably linked to (ii) regulatory sequences for eukaryotic gene expression; and (iii) a sequence of interest flanked by (iv) sequences homologous to eukaryotic cell sequences; and (b) a pair of directly repeating site-specific (s-s) recombination sequences; (2) a DNA construct (II) for inserting a DNA sequence of interest into eukaryotic cell DNA comprising a multifunctional DNA sequence comprising: (i) a gene encoding a 1st s-s recombinase capable of recognising 1st s-s recombination sequences; (ii) a DNA sequence targeted for inversion via homologous recombination into eukaryotic cell DNA, comprising a sequence of interest and excisable selection region and flanked by: (iii) a sequence homologous to eukaryotic cell sequences, where the excisable selection region comprises a gene encoding a selectable marker and a gene encoding a 2nd s-s recombinase capable of recognising a 2nd s-s recombination sequence, both genes capable of eukaryotic gene expression, and the excisable region is flanked by: (iv) a pair of directly repeating s-s recombination sequences; and (3) a DNA construct (III) for transforming eukaryotic cells comprising: (a) a multifunctional DNA sequence comprising: (i) a gene encoding a selectable marker operably linked to (ii) regulatory sequences for eukaryotic gene expression; (iii) a DNA sequence targeted for inversion into the eukaryotic cell having less than or equal to 1 polylinker region and flanked by: (iv) nucleotide sequences homologous to eukaryotic cell sequences; and (b) a flanking pair of directly-repeated s-s recombination sequences.

Equivalent Abstract Text (14):
The following are new: (1) a DNA construct (I) for transforming a eukaryotic cell comprising: (a) a multifunctional DNA sequence comprising: (i) a gene encoding a selectable marker operably linked to (ii) regulatory sequences for eukaryotic gene expression; and (iii) a sequence of interest flanked by (iv) sequences homologous to eukaryotic cell sequences; and (b) a pair of directly repeating site-specific (s-s) recombination sequences; (2) a DNA construct (II) for inserting a DNA sequence of interest into eukaryotic cell DNA comprising a multifunctional DNA sequence comprising: (i) a gene encoding a 1st s-s recombinase capable of recognising 1st s-s recombination sequences; (ii) a DNA sequence targeted for inversion via homologous recombination into eukaryotic cell DNA, comprising a sequence of interest and excisable selection region and flanked by: (iii) a sequence homologous to eukaryotic cell sequences, where the excisable selection region comprises a gene encoding a selectable marker and a gene encoding a 2nd s-s recombinase capable of recognising a 2nd s-s recombination sequence, both genes capable of eukaryotic gene expression, and the excisable region is flanked by: (iv) a pair of directly repeating s-s recombination sequences; and (3) a DNA construct (III) for transforming eukaryotic cells comprising: (a) a multifunctional DNA sequence comprising: (i) a gene encoding a selectable marker operably linked to (ii) regulatory sequences for eukaryotic gene expression; (iii) a DNA sequence targeted for inversion into the eukaryotic cell having less than or equal to 1 polylinker region and flanked by: (iv) nucleotide sequences homologous to eukaryotic cell sequences; and (b) a flanking pair of directly-repeated s-s recombination sequences.

Equivalent Abstract Text (17):
The following are new: (1) a DNA construct (I) for transforming a eukaryotic cell comprising: (a) a multifunctional DNA sequence comprising: (i) a gene encoding a selectable marker operably linked to (ii) regulatory sequences for eukaryotic gene expression; and (iii) a sequence of interest flanked by (iv) sequences homologous to eukaryotic cell sequences; and (b) a pair of directly repeating site-specific (s-s) recombination sequences; (2) a DNA construct (II) for inserting a DNA sequence of interest into eukaryotic cell DNA comprising a multifunctional DNA sequence comprising: (i) a gene encoding a 1st s-s recombinase capable of recognising 1st s-s recombination sequences; (ii) a DNA sequence targeted for inversion via homologous recombination into eukaryotic cell DNA, comprising a sequence of interest and excisable selection region and flanked by: (iii) a sequence homologous to eukaryotic cell sequences, where the excisable selection region comprises a gene encoding a selectable marker and a gene encoding a 2nd s-s recombinase capable of recognising a 2nd s-s recombination sequence, both genes capable of eukaryotic gene expression, and the excisable region is flanked by: (iv) a pair of directly repeating s-s recombination sequences; and (3) a DNA construct (III) for transforming eukaryotic cells comprising: (a) a multifunctional DNA sequence comprising: (i) a gene encoding a selectable marker operably linked to (ii) regulatory sequences for eukaryotic gene expression; (iii) a DNA sequence targeted for inversion into the eukaryotic cell having less than or equal to 1 polylinker region and flanked by: (iv) nucleotide sequences homologous to eukaryotic cell sequences; and (b) a flanking pair of directly-repeated s-s recombination sequences.

21. Document ID: EP 485701 A1, AU 653362 B, AU 9184834 A, CA 2052324 A, FI 9104565 A, JP 05076376 A, NO 9103814 A, PT 99065 A,
TW 240246 A

L10: Entry 21 of 22 File: DWPI

May 20, 1992

DERWENT-ACC-NO: 1992-168377
DERWENT-WEEK: 199221

TITLE: Insertion of DNA into constituent DNA of prokaryote(s) - using a

DNA construct contg. transposase gene linked in cis to transposable cassette

PRIORITY-DATA: 1990US-0590364 (September 28, 1990)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
EP 485701 A1	May 20, 1992	E	035	C12N015/30
AU 653362 B	September 29, 1994		000	C12N015/31
AU 9184834 A	April 2, 1992		068	C12N015/31
CA 2052324 A	March 29, 1992		000	C12N015/66
FI 9104565 A	March 29, 1992		000	C12N015/74
JP 05076376 A	March 30, 1993		031	C12N015/90
NO 9103814 A	March 30, 1992		000	C12N015/70
PT 99065 A	August 31, 1992		000	C12N000/00
TW 240246 A	February 11, 1995		000	C12N015/63

APPLICATION-DATA:

PUB-NO	APPL-DATE	APPL-NO
EP 485701A1	August 30, 1991	1991EP-0114668
AU 653362B	September 27, 1991	1991AU-0084834
AU 653362B		AU 9184834
AU 9184834A	September 27, 1991	1991AU-0084834
CA 2052324A	September 26, 1991	1991CA-2052324
FI 9104565A	September 27, 1991	1991FI-0004565
JP05076376A	September 27, 1991	1991JP-0274964
NO 9103814A	September 27, 1991	1991NO-0003814
PT 99065A	September 26, 1991	1991PT-0099065
TW 240246A	September 4, 1991	1991TW-0107019

INT-CL (IPC): A61K 39/00; A61K 39/01; A61K 39/02; A61K 39/10; C12N 0/00; C12N 7/01; C12N 15/12; C12N 15/30; C12N 15/31; C12N 15/33; C12N 15/52; C12N 15/63; C12N 15/66; C12N 15/70; C12N 15/73; C12N 15/74; C12N 15/90

IN: BREY, R N, DEICH, R A

AB: A DNA construct for introducing a DNA sequence into the constituent DNA of a prokaryote comprises a gene encoding a transposase protein linked in cis to a transposable cassette comprising a pair of transposase recongition sites flanking a cloning site for insertion of the DNA sequence, but not flanking the gene encoding the transposase protein., Also claimed are (1) an episome for introducing DNA into the constituent DNA of a prokaryote, comprising: (a) a gene encoding a transposase protein, (b) a transposable cassette linked in cis to this gene, the cassette comprising a pair of inverted repeats flanking a multiple cloning site and a selectable marker, but not flanking the gene, and (c) a replicon having an origin of replication which is homologous and functionally equiv. to a prokaryotic origin of replication; (2) a bacteriophage deriv. for introducing DNA into the constituent DNA of a prokaryote, comprising (a), (b) and (c) as above; (3) a live vaccine comprising an attenuated bacterium having incorporated in its constituent DNA a transposable cassette contg. a gene encoding an antigen or interest; etc.,

USE/ADVANTAGE - The methods can be used to insert single or multiple copies of an expressible gene into the chromosome of a prokaryotic host. If the host is an attenuated enteroinvasive bacterium, it is useful in a live vaccine. The DNA constructs encode the transposase gene and recognition sequences in cis, resulting in an efficient transposition system. The gene encodes antigens from pathogenic parasites, e.g. bacteria and viruses, human immunoactive proteins and peptides, hormones, growth factors, allergens, tumour associated antigens and other proteins

L10: Entry 21 of 22 File: DWPI

May 20, 1992

DERWENT-ACC-NO: 1992-168377
DERWENT-WEEK: 199221

TITLE: Insertion of DNA into constituent DNA of prokaryote(s) - using a DNA construct contg. transposase gene linked in cis to transposable cassette

Basic Abstract Text:
Also claimed are (1) an episome for introducing DNA into the constituent DNA of a prokaryote, comprising: (a) a gene encoding a transposase protein, (b) a transposable cassette linked in cis to this gene, the cassette comprising a pair of inverted repeats

flanking a multiple cloning site and a selectable marker, but not flanking the gene, and (c) a replicon having an origin of replication which is homologous and functionally equiv. to a prokaryotic origin of replication; (2) a bacteriophage deriv. for introducing DNA into the constituent DNA of a prokaryote, comprising (a), (b) and (c) as above; (3) a live vaccine comprising an attenuated bacterium having incorporated in its constituent DNA a transposable cassette contg. a gene encoding an antigen or interest; etc.

Basic Abstract Text (2):
Also claimed are (1) an episome for introducing DNA into the constituent DNA of a prokaryote, comprising: (a) a gene encoding a transposase protein, (b) a transposable cassette linked in cis to this gene, the cassette comprising a pair of inverted repeats flanking a multiple cloning site and a selectable marker, but not flanking the gene, and (c) a replicon having an origin of replication which is homologous and functionally equiv. to a prokaryotic origin of replication; (2) a bacteriophage deriv. for introducing DNA into the constituent DNA of a prokaryote, comprising (a), (b) and (c) as above; (3) a live vaccine comprising an attenuated bacterium having incorporated in its constituent DNA a transposable cassette contg. a gene encoding an antigen or interest; etc.

22. Document ID: EP 251654 A, AU 8774619 A, JP 63094929 A

L10: Entry 22 of 22 File: DWPI

Jan 7, 1988

DERWENT-ACC-NO: 1988-001508
DERWENT-WEEK: 198801
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TITLE: Plants transformed with plastid contg. heterologous DNA - and vectors able to integrate into plastid genome, esp. for imparting herbicide resistance

PRIORITY-DATA: 1986US-0877261 (June 23, 1986)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES
MAIN-IPC			
EP 251654 A	January 7, 1988	E	035
AU 8774619 A	December 24, 1987		000
JP 63094929 A	April 26, 1988		000

APPLICATION-DATA:

PUB-NO	APPL-DATE	APPL-NO
DESCRIPTOR		
EP 251654A	June 23, 1987	1987EP-0305573
JP63094929A	June 23, 1987	1987JP-0156367

INT-CL (IPC): A01H 1/00; A01H 5/12; C07G 17/00; C12N 1/00; C12N 5/00; C12N 15/00; C12P 19/34; C12P 21/00
IN: CANNON, F C, CANNON, M C

AB: Plants contg. plastids in which the genome includes heterologous DNA are new. Also new are (1) vectors able to integrate a part of themselves into a plastid genome, consisting of a transposon which includes a gene for selectable marker protein and insertion sequences on either side of this gene, plus (on either side of the insertion sequences) two DNA regions together comprising a region homologous with a genomic DNA region; (2) plastids including the integrating portion of such a vector, and (3) plant cells contg. these plastids. The plastids are chloroplasts and the transposon includes a site for insertion of a gene coding for a heterologous protein (I)., USE/ADVANTAGE - (I) are chosen to confer advantageous qualities, e.g. herbicide resistance, to the plants, using genes expressed more efficiently inside chloroplasts than outside. The plastid genome integration ensures stability of the inserted DNA over many cell divisions.

L10: Entry 22 of 22 File: DWPI

Jan 7, 1988

DERWENT-ACC-NO: 1988-001508
DERWENT-WEEK: 198801
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TITLE: Plants transformed with plastid contg. heterologous DNA - and vectors able to integrate into plastid genome, esp. for imparting herbicide resistance

Basic Abstract Text:
Plants contg. plastids in which the genome includes heterologous DNA are new. Also new are (1) vectors able to integrate a part of themselves into a plastid genome, consisting of a transposon which includes a gene for selectable marker protein and insertion sequences on either side of this gene, plus (on either side of the insertion sequences) two DNA regions together comprising a region homologous with a genomic DNA region; (2) plastids including the integrating portion of such a vector, and (3) plant cells contg. these plastids. The plastids are chloroplasts and the transposon includes a site for insertion of a gene coding for a heterologous protein (I).

Basic Abstract Text (1):
Plants contg. plastids in which the genome includes heterologous DNA are new. Also new are (1) vectors able to integrate a part of themselves into a plastid genome, consisting of a transposon which includes a gene for selectable marker protein and insertion sequences on either side of this gene, plus (on either side of the insertion sequences) two DNA regions together comprising a region homologous with a genomic DNA region; (2) plastids including the integrating portion of such a vector, and (3) plant cells contg. these plastids. The plastids are chloroplasts and the transposon includes a site for insertion of a gene coding for a heterologous protein (I).